

(12) United States Patent

Guven et al.

US 9,410,391 B2 (10) **Patent No.:** Aug. 9, 2016 (45) **Date of Patent:**

(54)	VALVE SYSTEM			
(71)	Applicant:	Schlumberger Technology Corporation, Sugar Land, TX (US)		
(72)	Inventors:	Oguzhan Guven, Bellaire, TX (US); Gary L. Rytlewski, League City, TX (US)		
(73)	Assignee:	Schlumberger Technology Corporation, Sugar Land, TX (US)		
(*)	Notice:	Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 355 days.		
(21)	Appl. No.: 13/660,018			
(22)	Filed:	Oct. 25, 2012		
(65)	Prior Publication Data US 2014/0116717 A1 May 1, 2014			
(51)	Int. Cl. E21B 29/12 (2006.01) E21B 7/12 (2006.01) E21B 34/06 (2006.01) E21B 34/08 (2006.01) E21B 29/04 (2006.01) E21B 29/08 (2006.01) E21B 34/04 (2006.01)			
(52)	· · · · · · · · · · · · · · · · · · ·			
(58)	Field of Classification Search USPC			
(56)	References Cited			

U.S. PATENT DOCUMENTS

12/1975 Ribeyre

3,926,252 A

3,270,772 A * 9/1966 Rakus F16K 5/0615

4,137,935 A *	2/1979	Snowdon B65G 53/4658		
4.160.478 A	7/1979			
4,215,749 A	8/1980	Dare et al.		
4.287.954 A *	9/1981	Krause E21B 34/105		
, ,		166/322		
4,878,651 A	11/1989	Meyer		
5,284,209 A	2/1994	Godfrey		
5,551,665 A *	9/1996	Noack E21B 29/04		
		166/324		
5,771,974 A	6/1998	Stewart et al.		
6.152.229 A *	11/2000	Jennings E21B 29/04		
-,,		137/613		
6.231.265 B1	5/2001	Rytlewski et al.		
, ,				
6,250,383 B1	6/2001	Patel		
6,260,822 B1	7/2001	Puranik		
(Continued)				
		*		

FOREIGN PATENT DOCUMENTS

WO 2014/011639 A1 1/2014

OTHER PUBLICATIONS

International Search Report and Written Opinion for corresponding International App No. PCT/US2013/062824, 14 pgs.

Primary Examiner — Matthew R Buck Assistant Examiner — Douglas S Wood (74) Attorney, Agent, or Firm — Tuesday Kaasch

ABSTRACT

A system and methodology facilitates utilization of a valve of a type which may be used as a subsea test tree. The valve comprises a valve element pivotably mounted in a housing having a passageway therethrough. The valve element may be actuated between an open position and a closed position blocking the passageway. A cutter is disposed along a first surface of the valve element and a seal system is positioned for engagement with a second surface of the valve element to provide separate cutting and sealing surfaces. Actuating the valve element from the open position to the closed position enables cutting of a conveyance, that may be positioned through the passageway, while simultaneously forming a seal along a separate surface to sealingly block the passageway.

22 Claims, 7 Drawing Sheets

